

CLAIMS

1. A method for removing harmful substances in a vent gas containing a halogen or halogen compound gas remaining in the pipeline of a cylinder cabinet, characterized by bringing the vent gas into contact with a treating agent comprising an alkaline earth metal compound, an alkali metal compound, zeolite, and a carbonaceous material.

2. The method for removing harmful substances in the vent gas according to claim 1, wherein the halogen or halogen compound gas is F_2 or COF_2 .

3. The method for removing harmful substances in the vent gas according to claim 1, wherein the alkaline earth metal compound is at least one member selected from the group consisting of an oxide, a hydroxide, a carbonate, and a sulfate of calcium, magnesium, barium, and strontium.

4. The method for removing harmful substances in the vent gas according to claim 1, wherein the alkali metal compound is at least one member selected from the group consisting of an oxide, a hydroxide, a carbonate, and a sulfate of sodium, potassium, and cesium.

5. The method for removing harmful substances in the vent gas according to claim 1, wherein the alkaline earth metal compound and the alkali metal compound are soda lime.

6. The method for removing harmful substances in the vent gas according to claim 1, wherein the zeolite has fine pores with a pore diameter of 3 Å or more.

5 7. The method for removing harmful substances in the vent gas according to claim 1, wherein the zeolite is X-type zeolite or faujasite type zeolite.

8. The method for removing harmful substances in the vent gas according to claim 1, wherein the zeolite is X-type zeolite or faujasite type zeolite and has
10 fine pores with a pore diameter of 3 Å or more.

9. The method for removing harmful substances in the vent gas according to claim 1, wherein the carbonaceous material is coke and/or activated carbon.

15 10. The method for removing harmful substances in the vent gas according to claim 1, wherein the treating agent comprises 60% or more by mass of the alkaline earth metal compound, 1 to 3% by mass of the alkali metal compound, 5 to 37% by mass of the zeolite, and 5% by mass or less of the carbonaceous material.

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11. The method for removing harmful substances in the vent gas according to claim 1, wherein each of the alkaline earth metal compound, the alkali metal compound, the zeolite, and the carbonaceous material is powder having a particle size of 500 μm or less.

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12. The method for removing harmful substances in the vent gas according to claim 1, wherein the treating agent is granules prepared by mixing the alkaline earth metal compound, the alkali metal compound, the zeolite, and the carbonaceous material each in powder form, kneading the mixture, and
5 granulating the mixture.